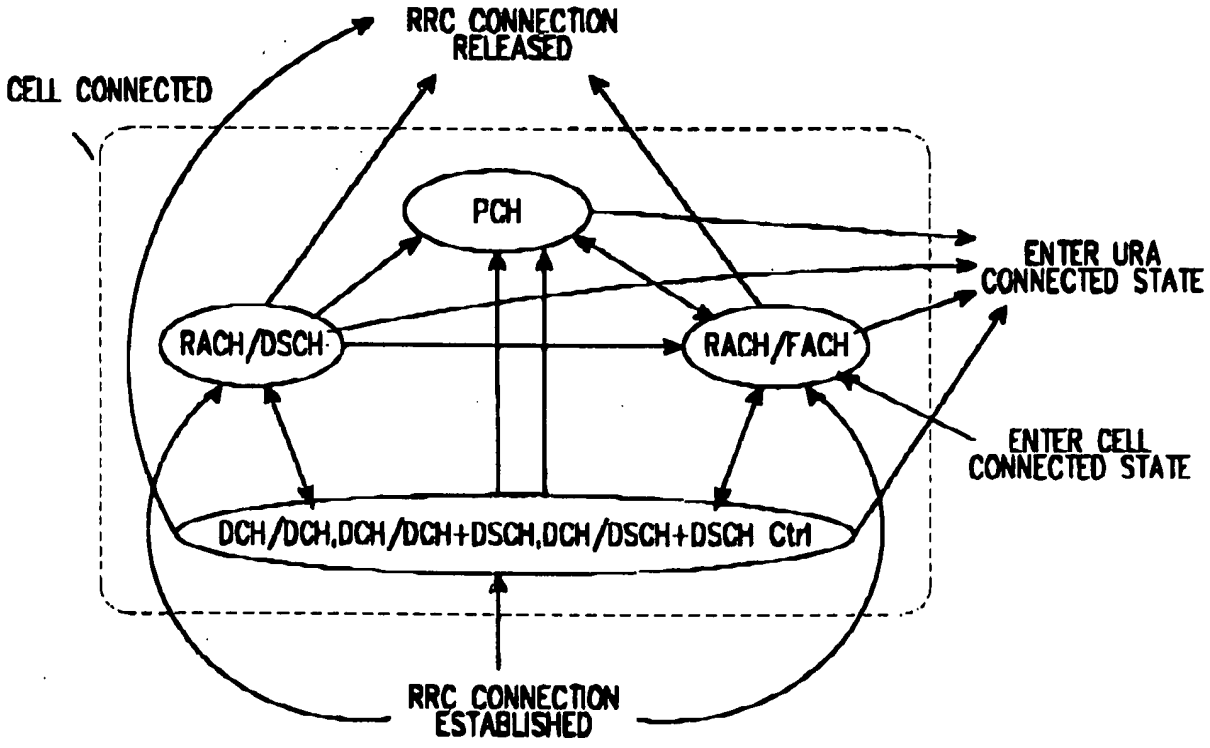

RRC CONNECTION RELEASED
CELL CONNECTED
PCH
ENTER URA CONNECTED STATE
RACH/DSCH
RACH/FACH
ENTER CELL CONNECTED STATE
DCH/DCH,DCH/DCH+DSCH,DCH/DSCH+DSCH Ctrl
RRC CONNECTION ESTABLISHED

FIG. 1A

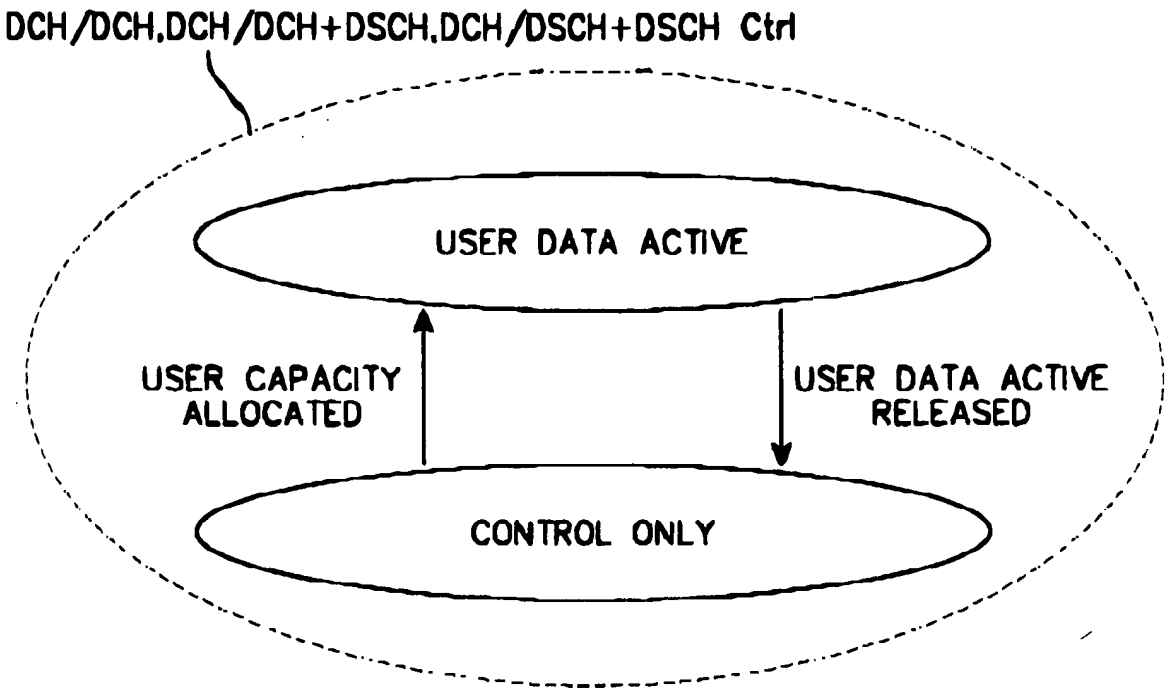

DCH/DCH,DCH/DCH+DSCH,DCH/DSCH+DSCH Ctrl
USER DATA ACTIVE
USER CAPACITY ALLOCATED
USER DATA ACTIVE RELEASED
CONTROL ONLY

FIG. 1B

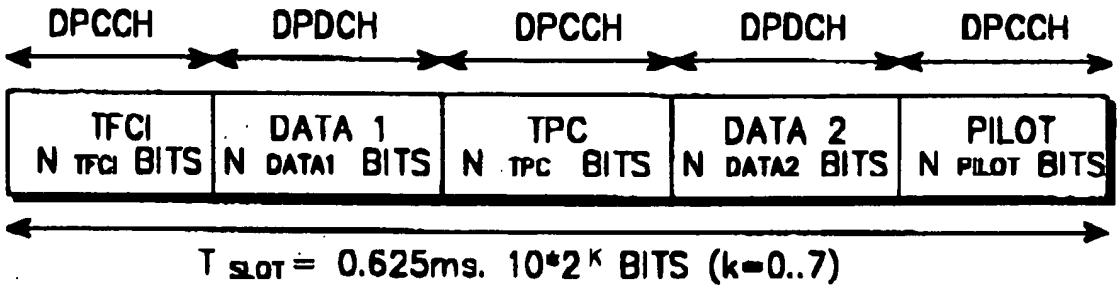

DPCCH
DPDCH
DPCCH
DPDCH
DPCCH
TFCI
N TFCI BITS
DATA 1
N DATA1 BITS
TPC
N TPC BITS
DATA 2
N DATA2 BITS
PILOT
N PILOT BITS
T SLOT = 0.625ms. 10*2 K BITS (k=0..7)

FIG. 2A

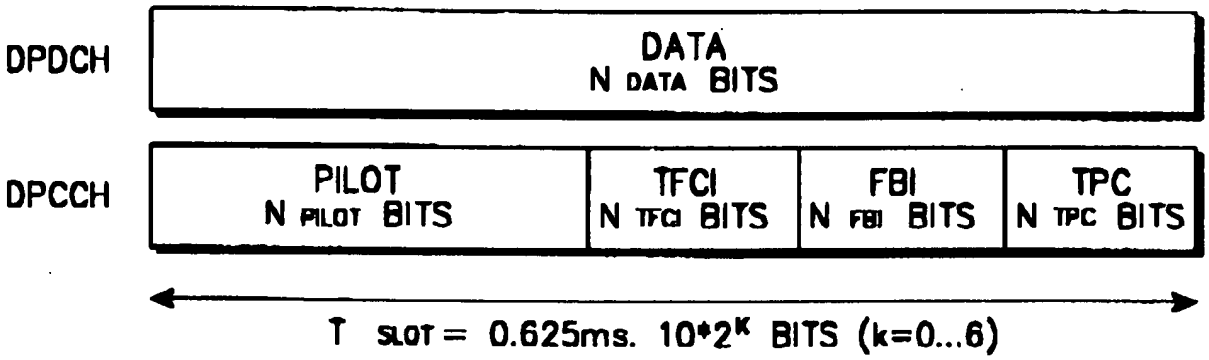

DPDCH
DATA
N DATA BITS
DPCCH
PILOT
N PILOT BITS
TFCI
N TFCI BITS
FBI
N FBI BITS
TPC
N TPC BITS
T SLOT = 0.625ms. 10*2K BITS (k=0...6)

FIG. 2B

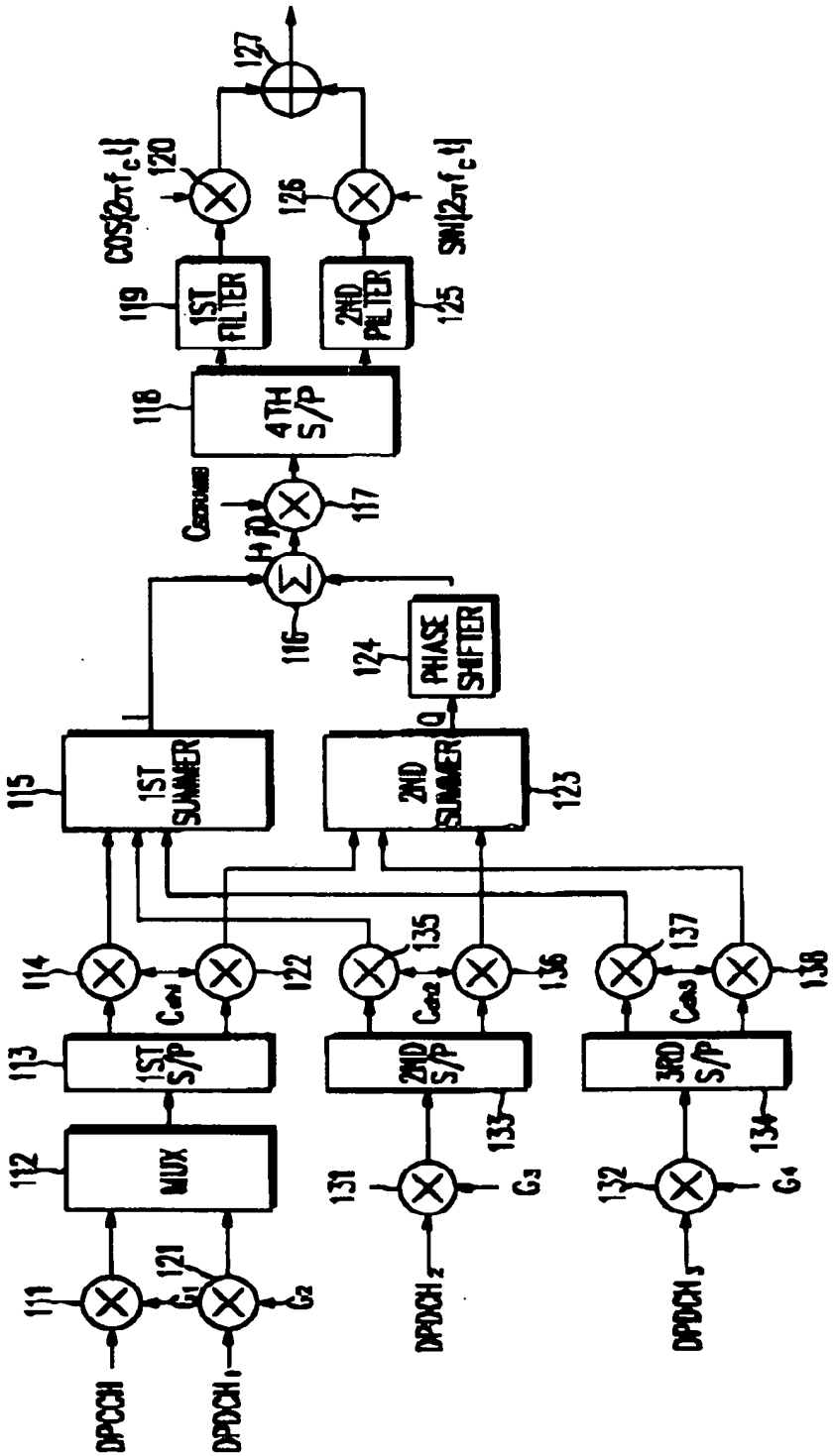

DPCCH
DPDCH1
DPDCH2
DPDCH3
MUX
1ST S/P
2ND S/P
3RD S/P
1ST SUMMER
2ND SUMMER
PHASE SHIFTER
4TH S/P
1ST FILTER
2ND FILTER
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
131
132
133
134
135
136
137
138

FIG. 3A

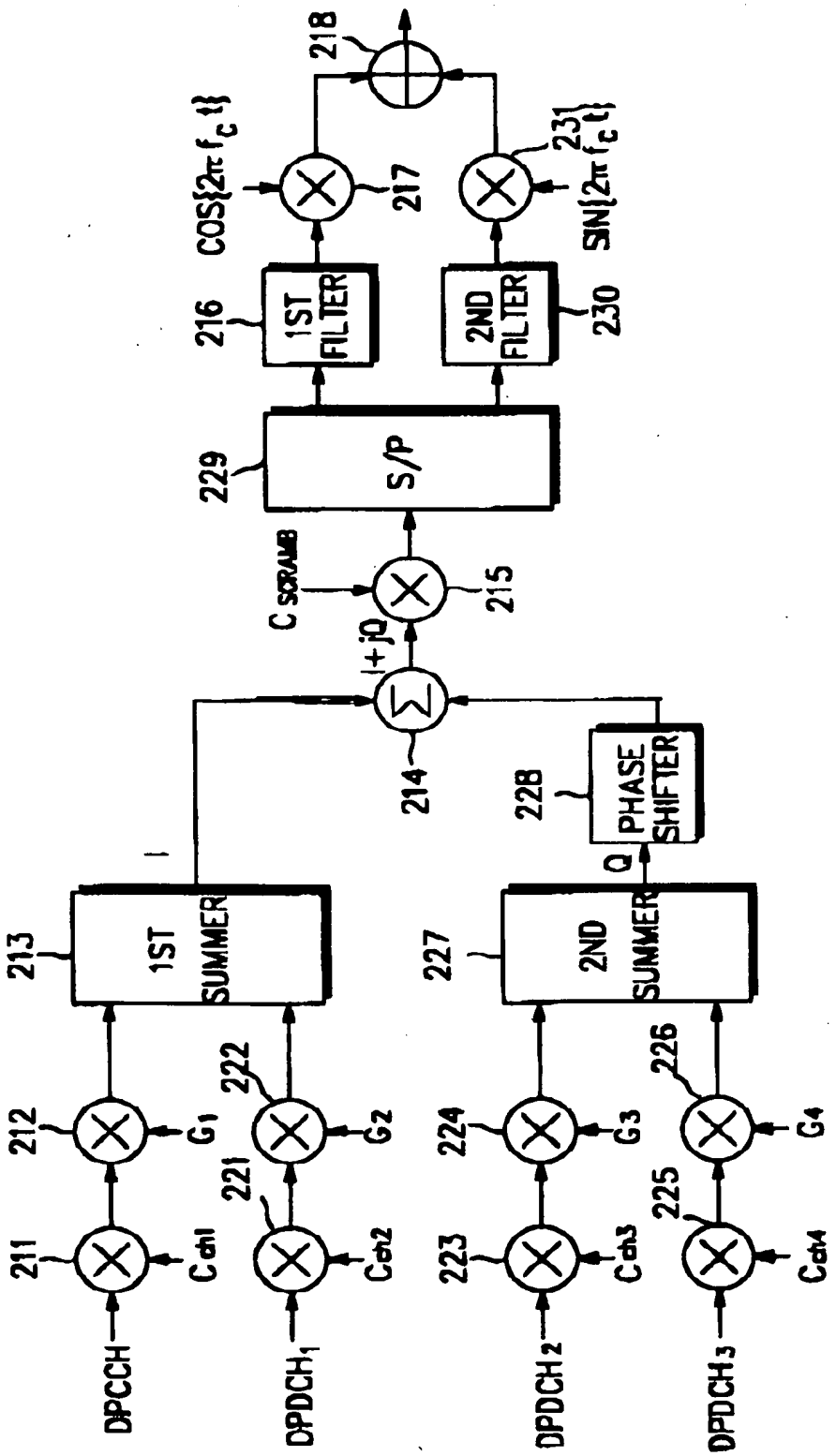

DPCCH
DPDCH1
DPDCH2
DPDCH3
Cch1
Cch2
Cch3
Cch4
G1
G2
G3
G4
211
212
221
222
223
224
225
226
1ST SUMMER
2ND SUMMER
213
227
I
Q
PHASE SHIFTER
228
214
I+jQ
C SCRAMB
215
S/P
229
1ST FILTER
2ND FILTER
216
230
COS{2π fc t}
SIN{2π fc t}
217
231
218

FIG. 3B

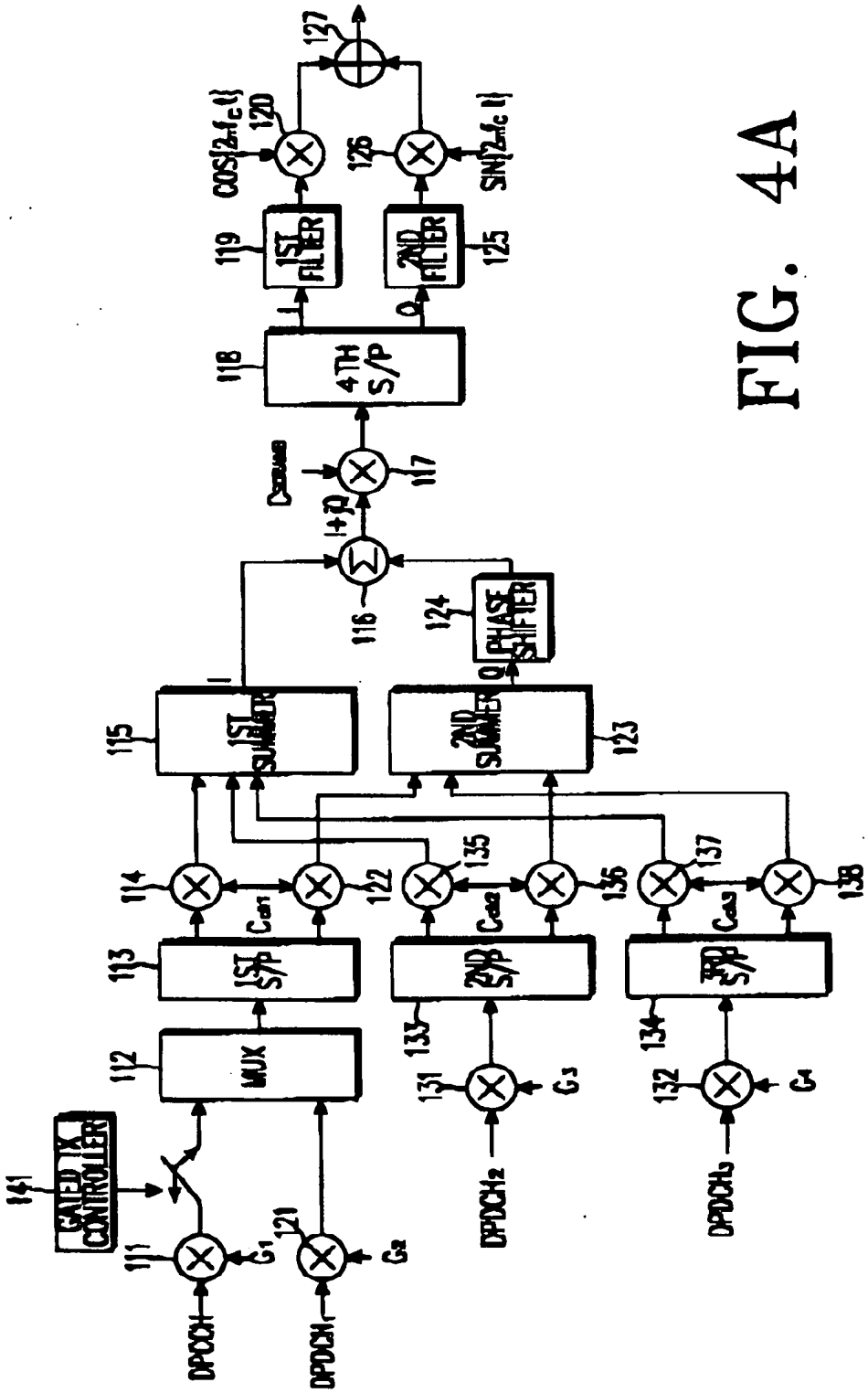

GATED TX CONTROLLER
141
MUX
112
1ST S/P
113
2ND S/P
133
3RD S/P
134
DPDCH
DPDCH
DPDCH2
DPDCH3
111
121
131
132
C1
C2
C3
C4
114
122
135
136
137
138
Cam1
Cam2
Cam3
1ST SUMMER
115
2ND SUMMER
123
I+jQ
116
Q PHASE SHIFTER
124
Cscram
117
4TH S/P
118
1ST FILTER
119
2ND FILTER
125
COS(2πfct)
120
SIN(2πfct)
126
127

FIG. 4A

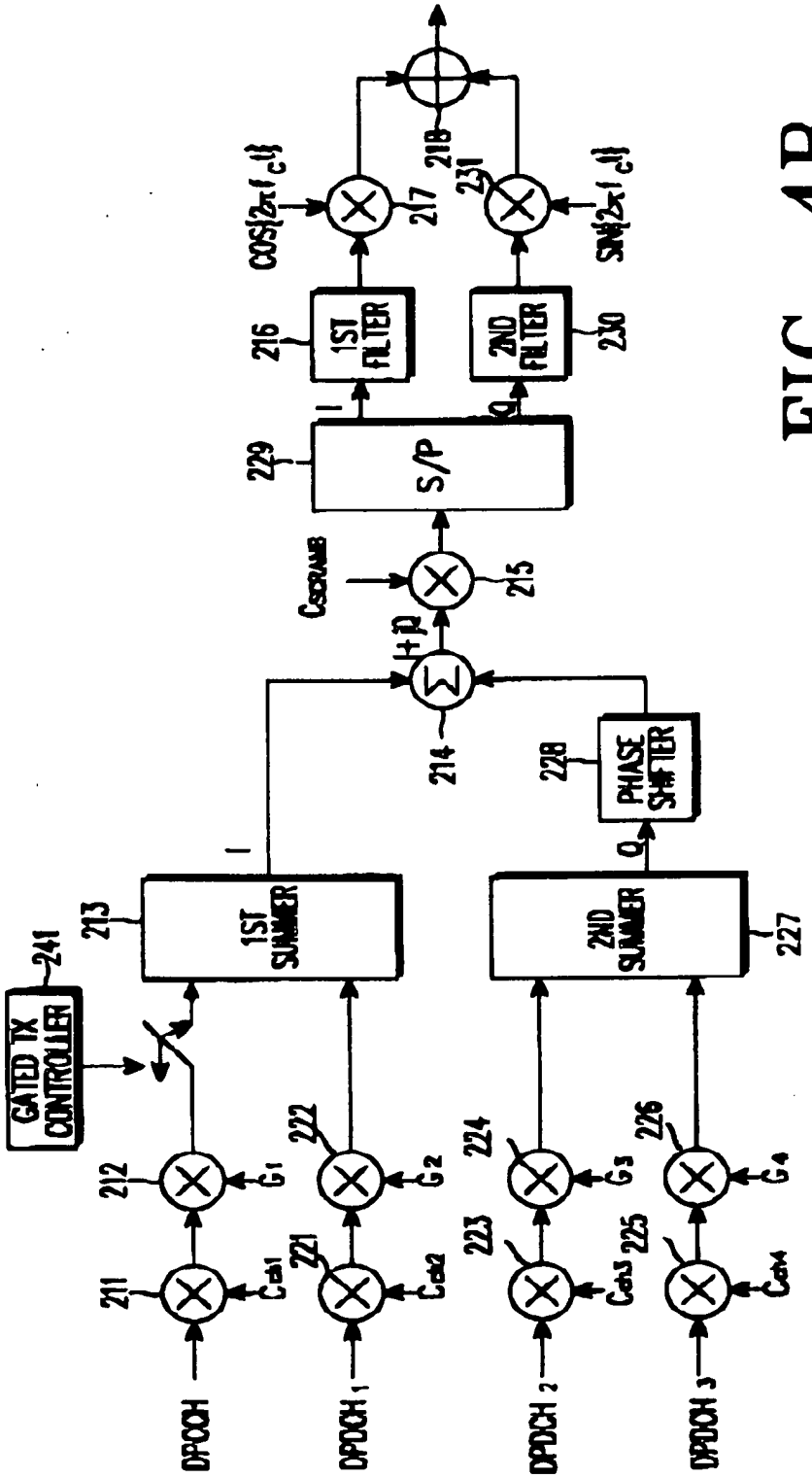

DPDCH
DPDCH 1
DPDCH 2
DPDCH 3
GATED TX CONTROLLER
241
1ST SUMMER
213
2ND SUMMER
227
PHASE SHIFTER
228
214
215
S/P
229
1ST FILTER
216
2ND FILTER
230
217
218
231
211
212
221
222
223
224
225
226
I
Q

FIG. 4B

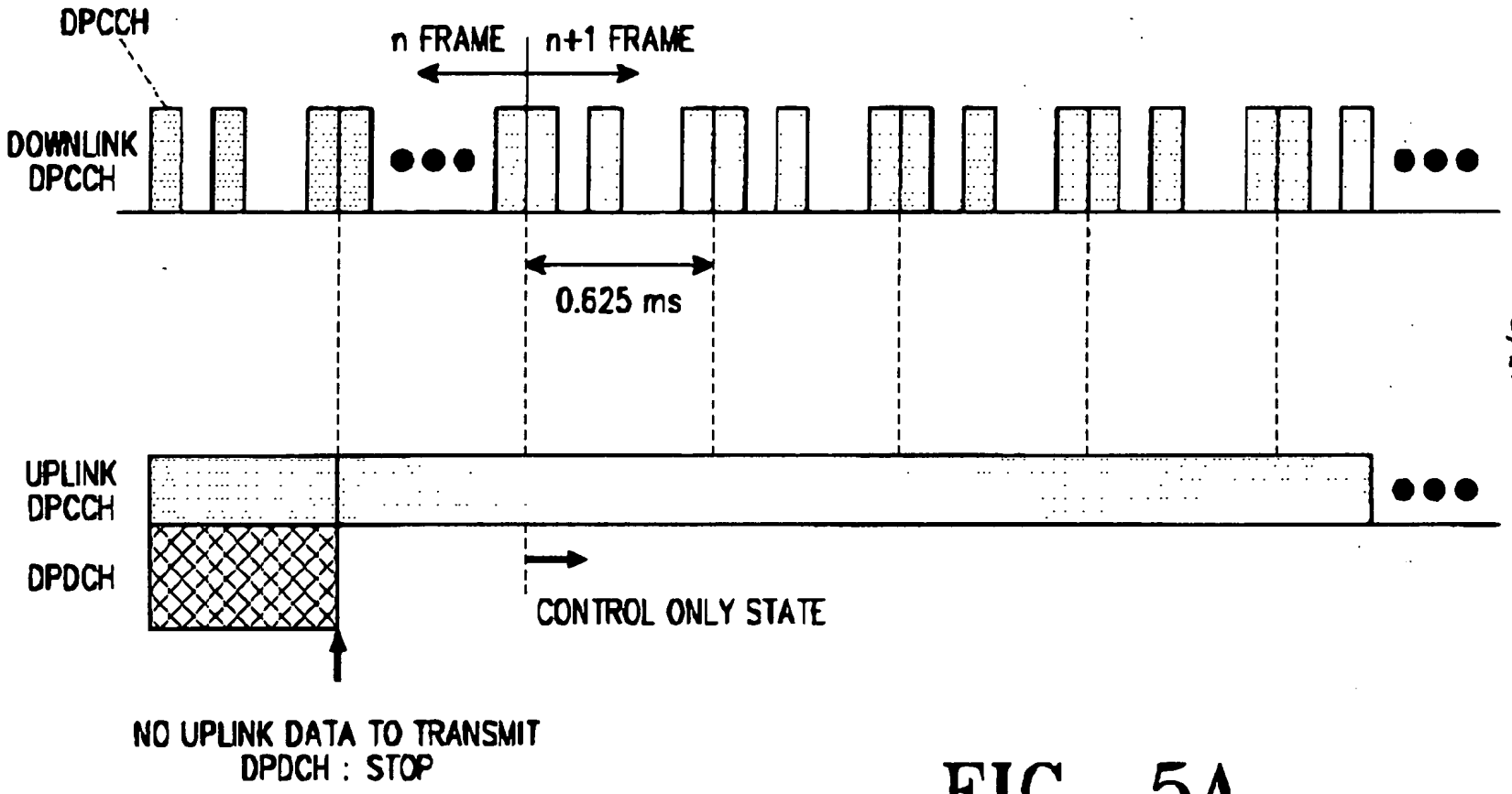

DPCCH
n FRAME
n+1 FRAME
DOWNLINK DPCCH
0.625 ms
UPLINK DPCCH
DPDCH
CONTROL ONLY STATE
NO UPLINK DATA TO TRANSMIT
DPDCH : STOP

FIG. 5A

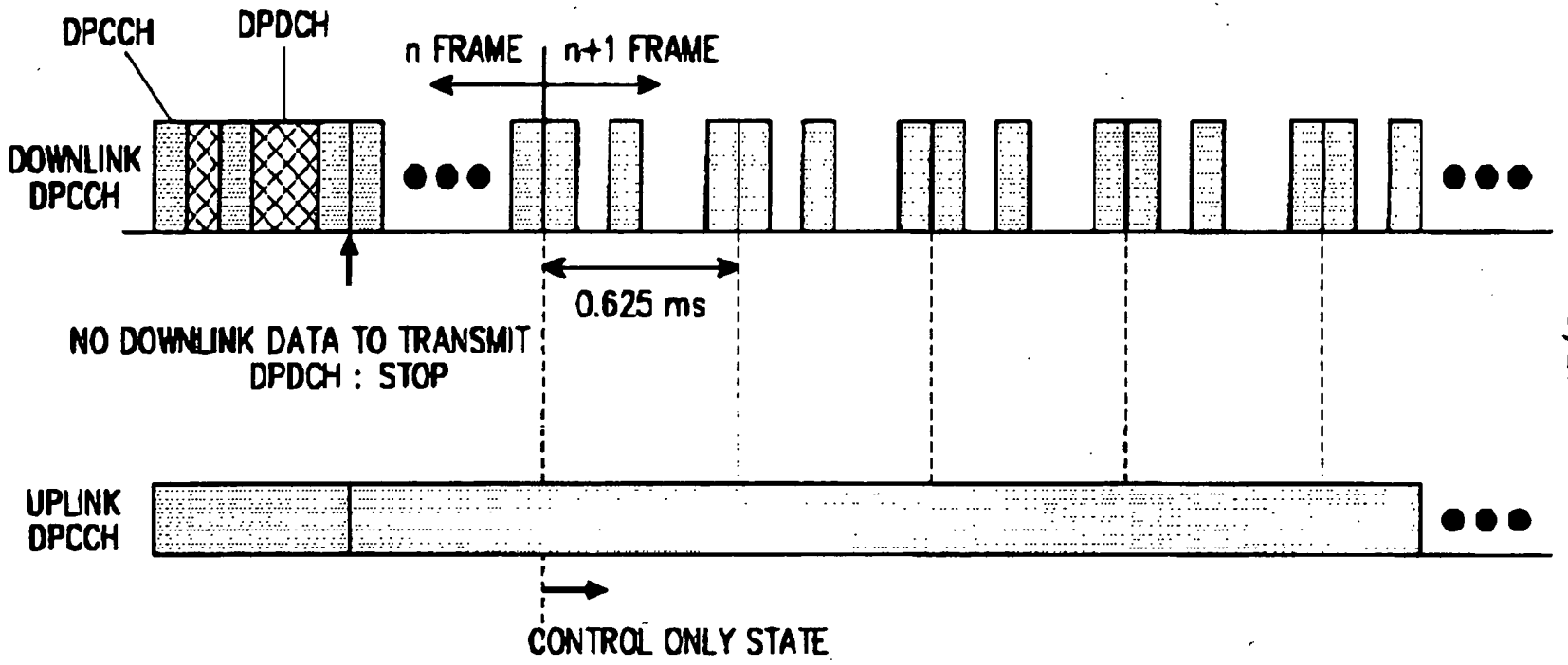
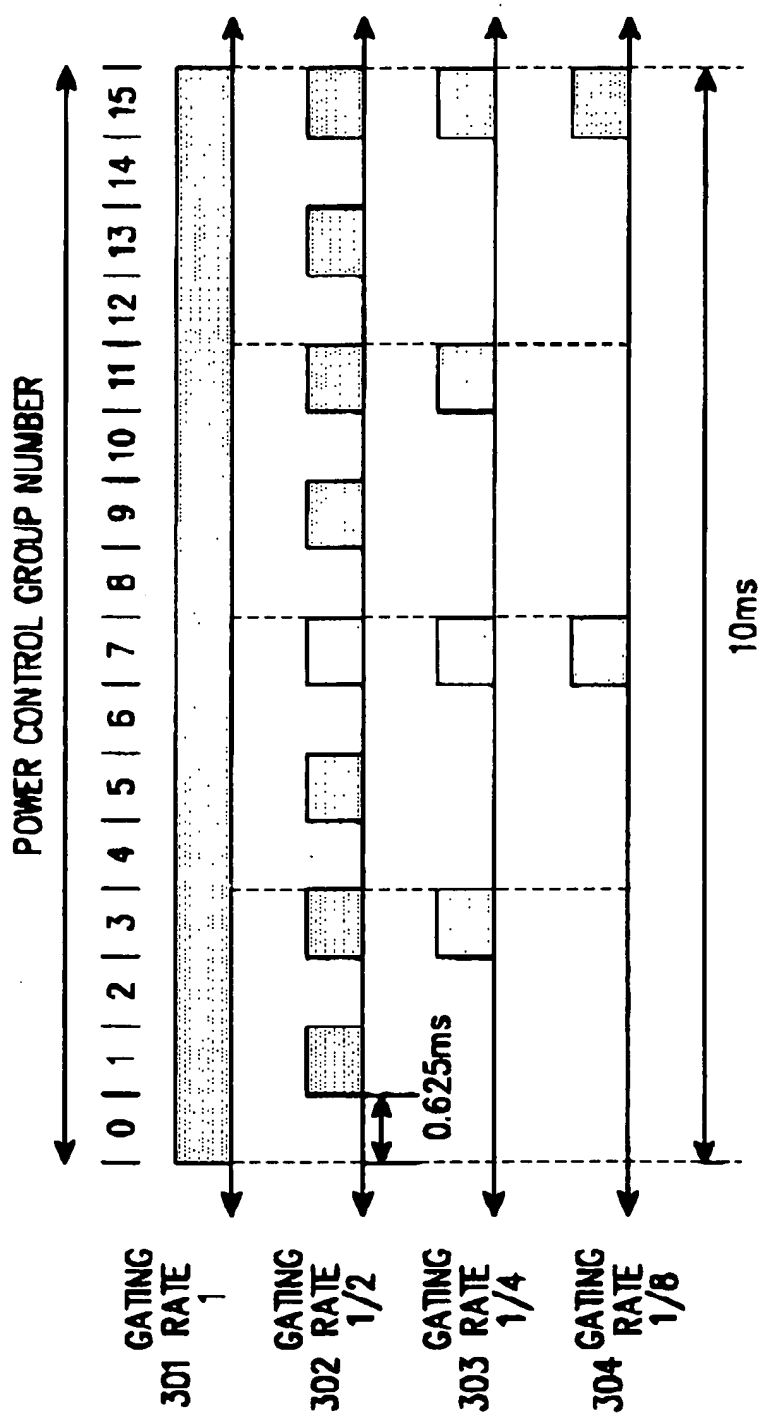

DPCCH
DPDCH
n FRAME
n+1 FRAME
DOWNLINK DPCCH
0.625 ms
NO DOWNLINK DATA TO TRANSMIT
DPDCH : STOP
UPLINK DPCCH
CONTROL ONLY STATE

FIG. 5B

FIG. 6A


POWER CONTROL GROUP NUMBER
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
0.625ms
10ms
GATING RATE 1
301
GATING RATE 1/2
302
GATING RATE 1/4
303
GATING RATE 1/8
304

DOCID: "WO 9704536A1"

FIG. 6B

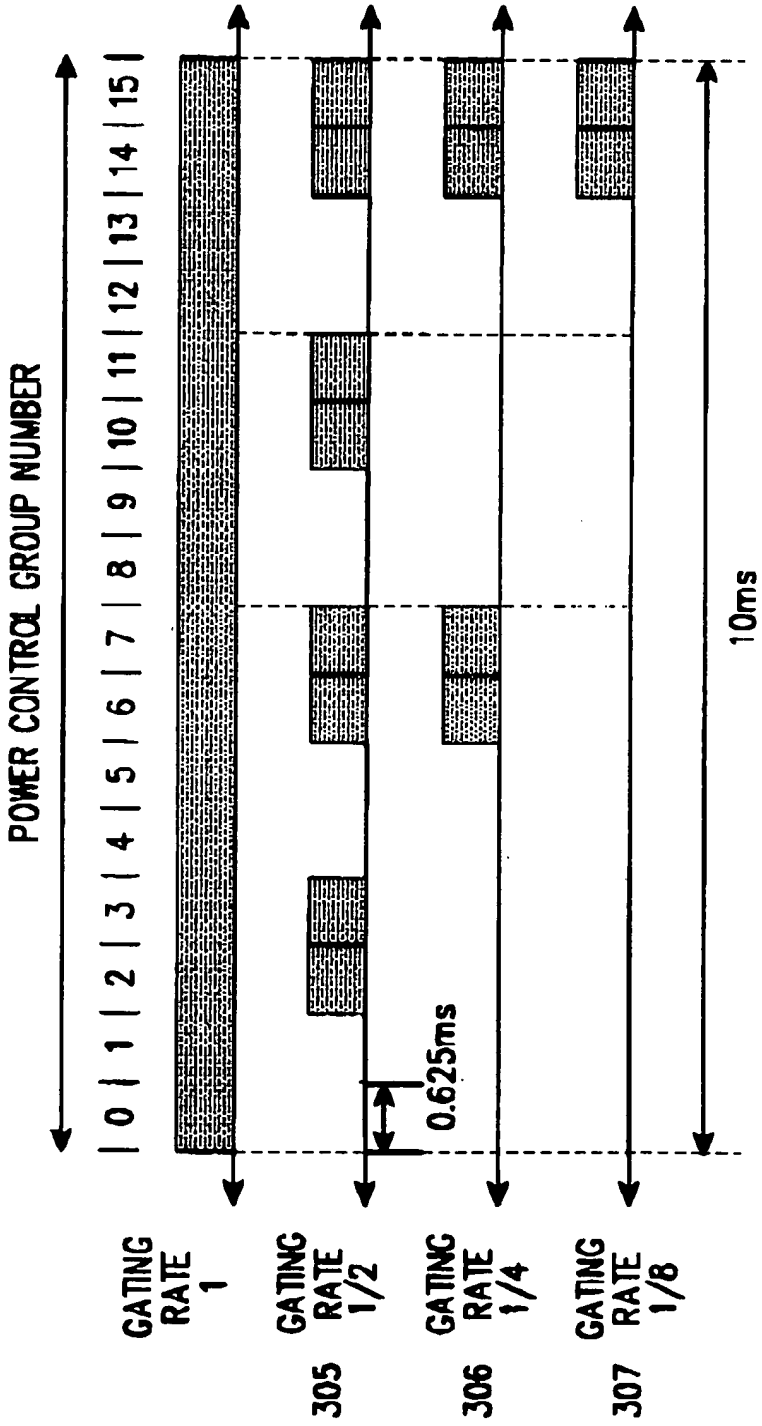


FIG. 7A

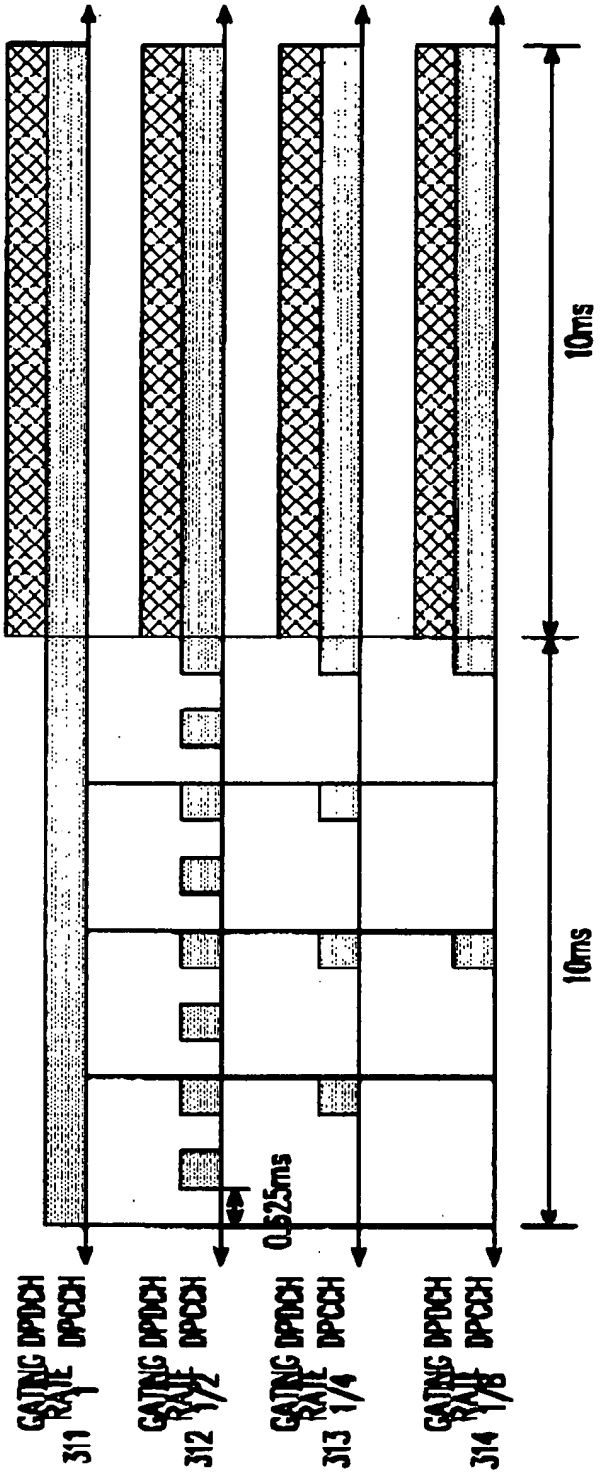

GATING RATE 1 DPCH
311 DPCCH
GATING RATE 1/2 DPCH
312 DPCCH
GATING RATE 1/4 DPCH
313 DPCCH
GATING RATE 1/8 DPCH
314 DPCCH
0.625ms
10ms
10ms

FIG. 7B

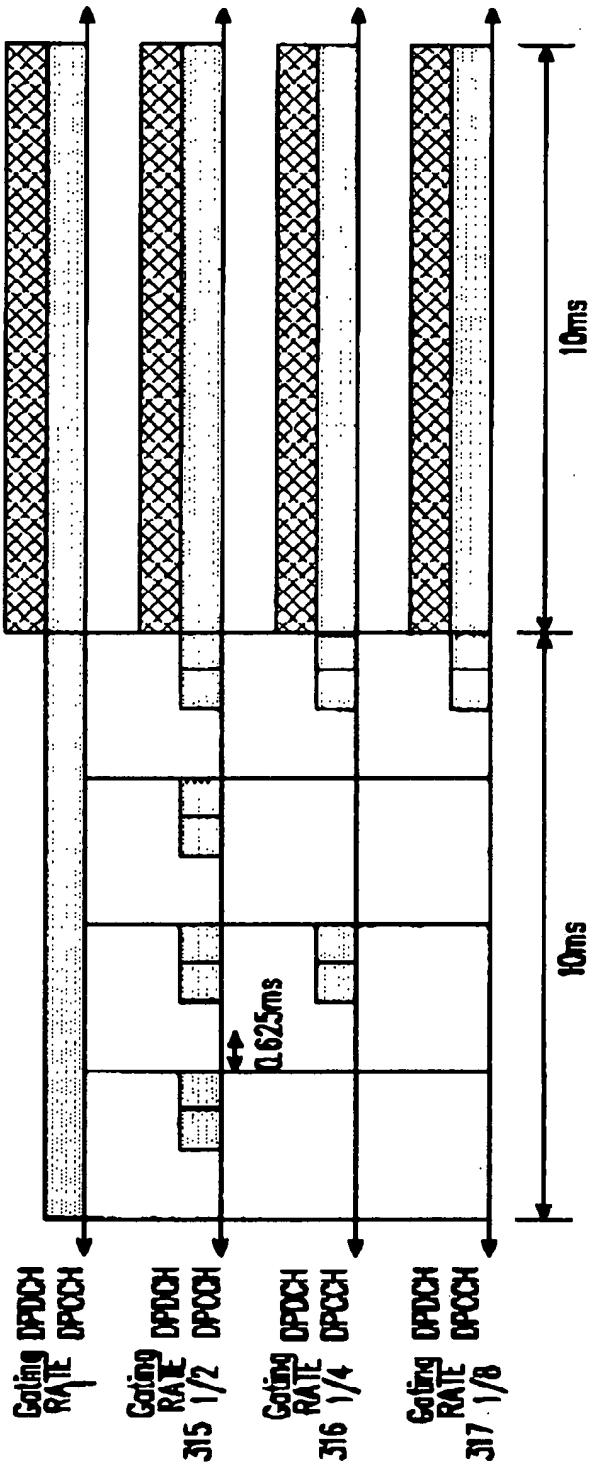

Gating RATE 1
DPDCH
DPCCH
Gating RATE 1/2
315
DPDCH
DPCCH
Gating RATE 1/4
316
DPDCH
DPCCH
Gating RATE 1/8
317
DPDCH
DPCCH
0.625ms
10ms
10ms

FIG. 8A

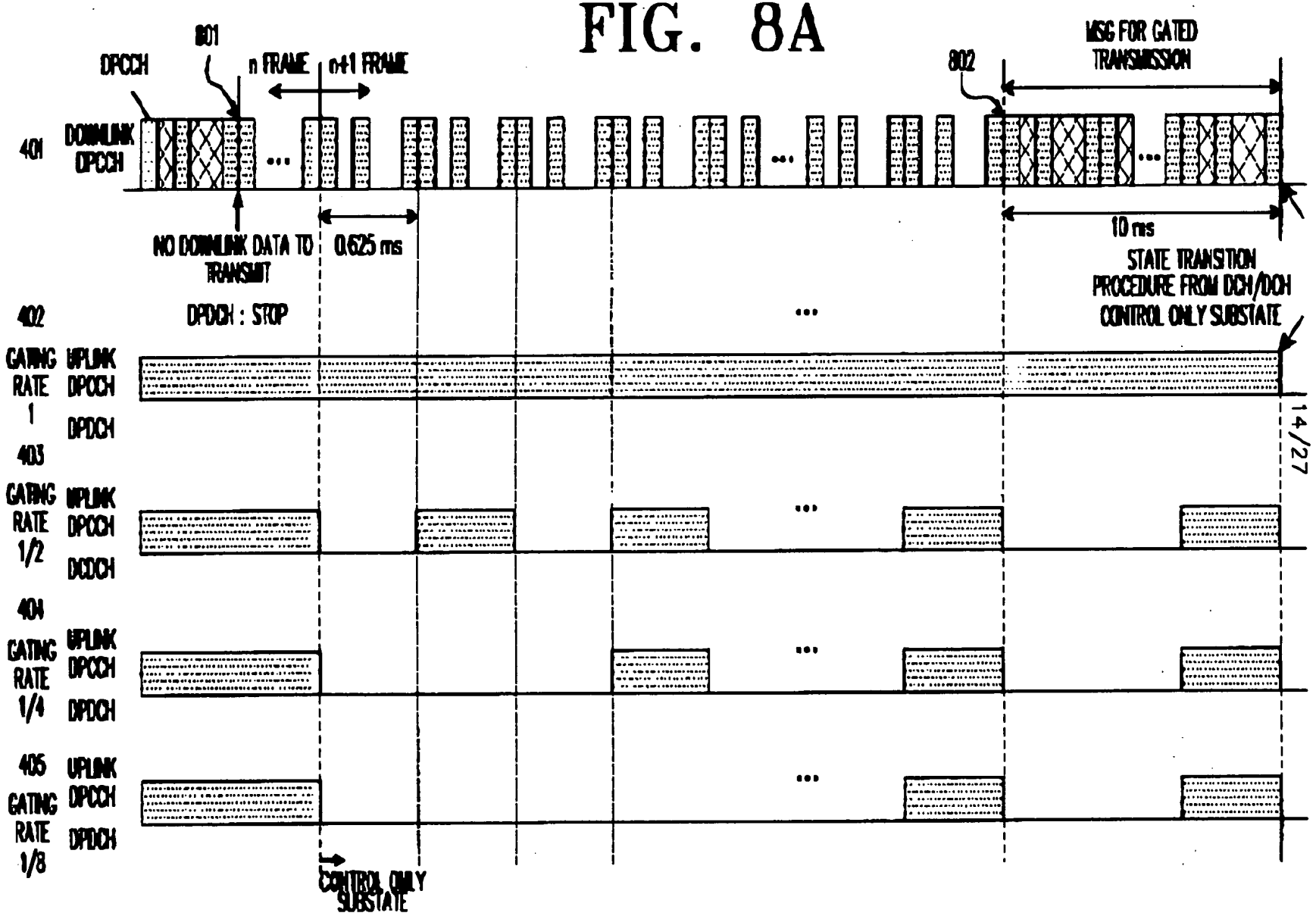
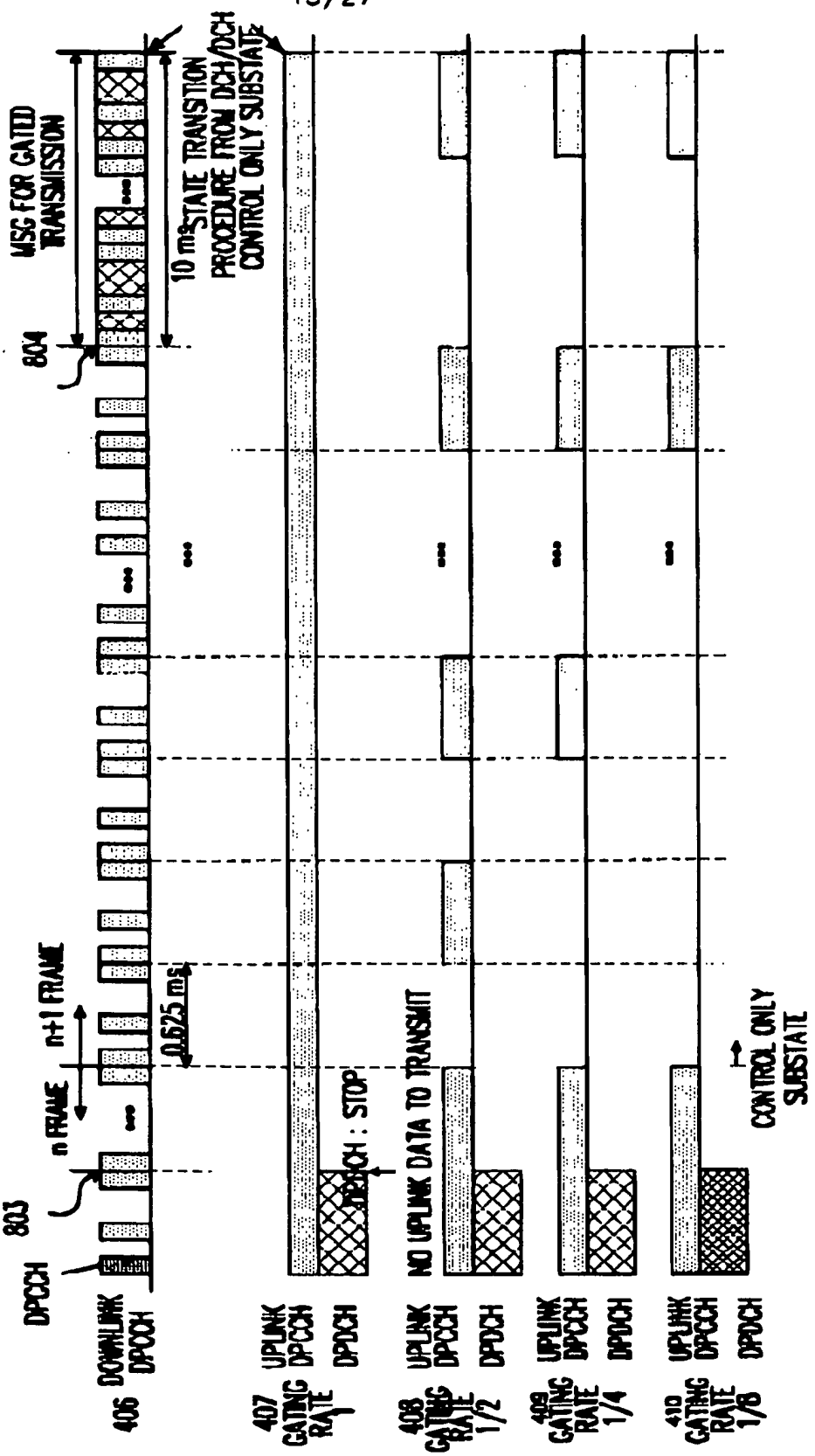

801
DPCCH
n FRAME
n+1 FRAME
802
MSG FOR GATED TRANSMISSION
401
DOWNLINK DPCCH
NO DOWNLINK DATA TO TRANSMIT
0.625 ms
10 ms
STATE TRANSITION PROCEDURE FROM DCH/DCH CONTROL ONLY SUBSTATE
402
DPDCH : STOP
GATING RATE 1
UPLINK DPCCH
DPDCH
403
GATING RATE 1/2
UPLINK DPCCH
DCDCH
404
GATING RATE 1/4
UPLINK DPCCH
DPDCH
405
UPLINK DPCCH
GATING RATE 1/8
DPDCH
CONTROL ONLY SUBSTATE

FIG. 8B


406 DOWNLINK DPCCH
DPCCH
803
n FRAME
n+1 FRAME
0.625 ms
804
MSG FOR GATED TRANSMISSION
10 ms STATE TRANSITION PROCEDURE FROM DCH/DCH CONTROL ONLY SUBSTATE
407 UPLINK DPCCH DPDCH GATING RATE 1
DPDCH : STOP
408 UPLINK DPCCH DPDCH GATING RATE 1/2
NO UPLINK DATA TO TRANSMIT
409 UPLINK DPCCH DPDCH GATING RATE 1/4
410 UPLINK DPCCH DPDCH GATING RATE 1/8
CONTROL ONLY SUBSTATE

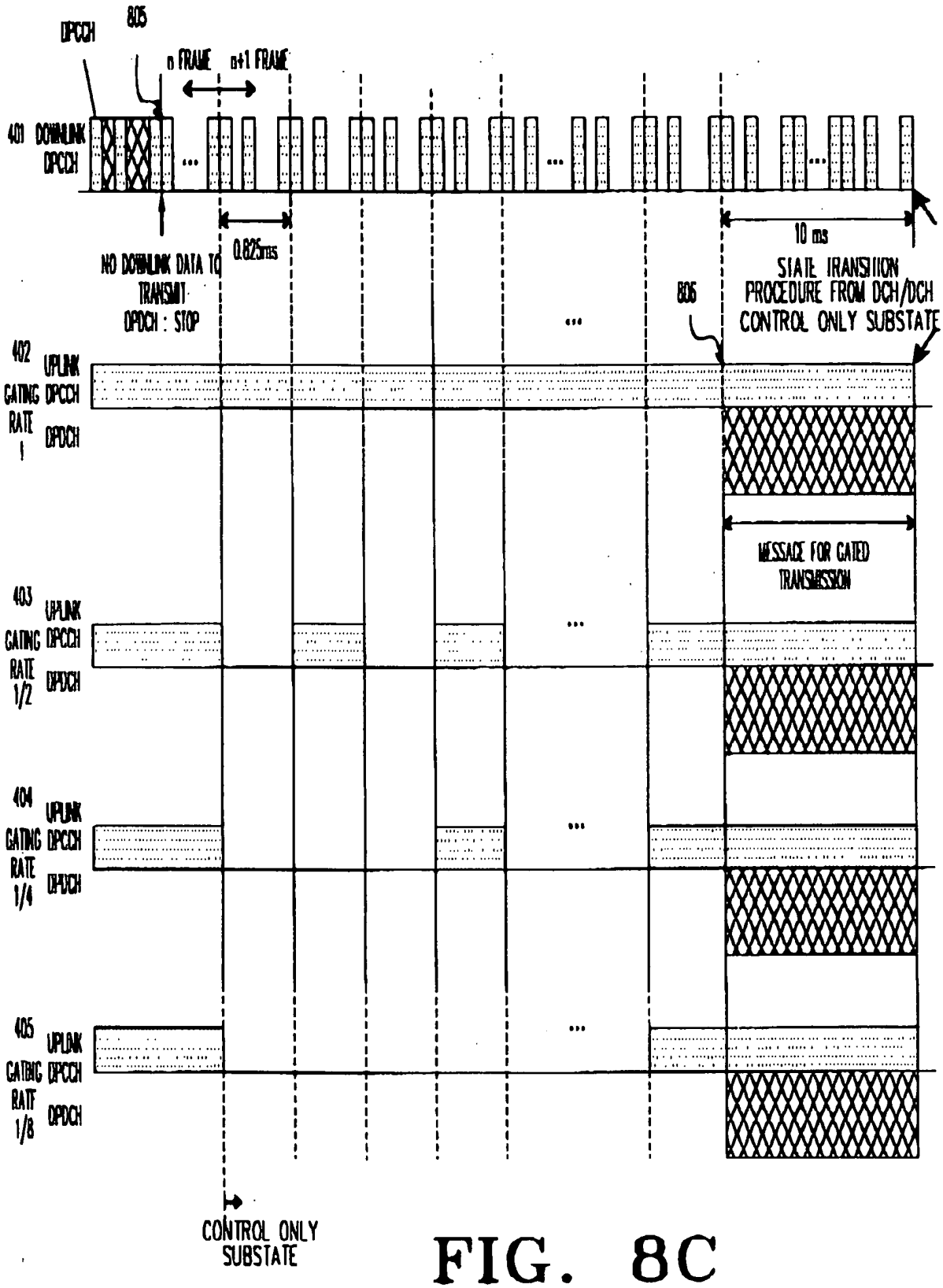

DPCCH
805
n FRAME
n+1 FRAME
401 DOWNLINK DPCCH
NO DOWNLINK DATA TO TRANSMIT DPDCH : STOP
0.625ms
10 ms
STATE TRANSITION PROCEDURE FROM DCH/DCH CONTROL ONLY SUBSTATE
806
402 UPLINK GATING RATE 1 DPCCH DPDCH
MESSAGE FOR GATED TRANSMISSION
403 UPLINK GATING RATE 1/2 DPCCH DPDCH
404 UPLINK GATING RATE 1/4 DPCCH DPDCH
405 UPLINK GATING RATE 1/8 DPCCH DPDCH
CONTROL ONLY SUBSTATE

FIG. 8C

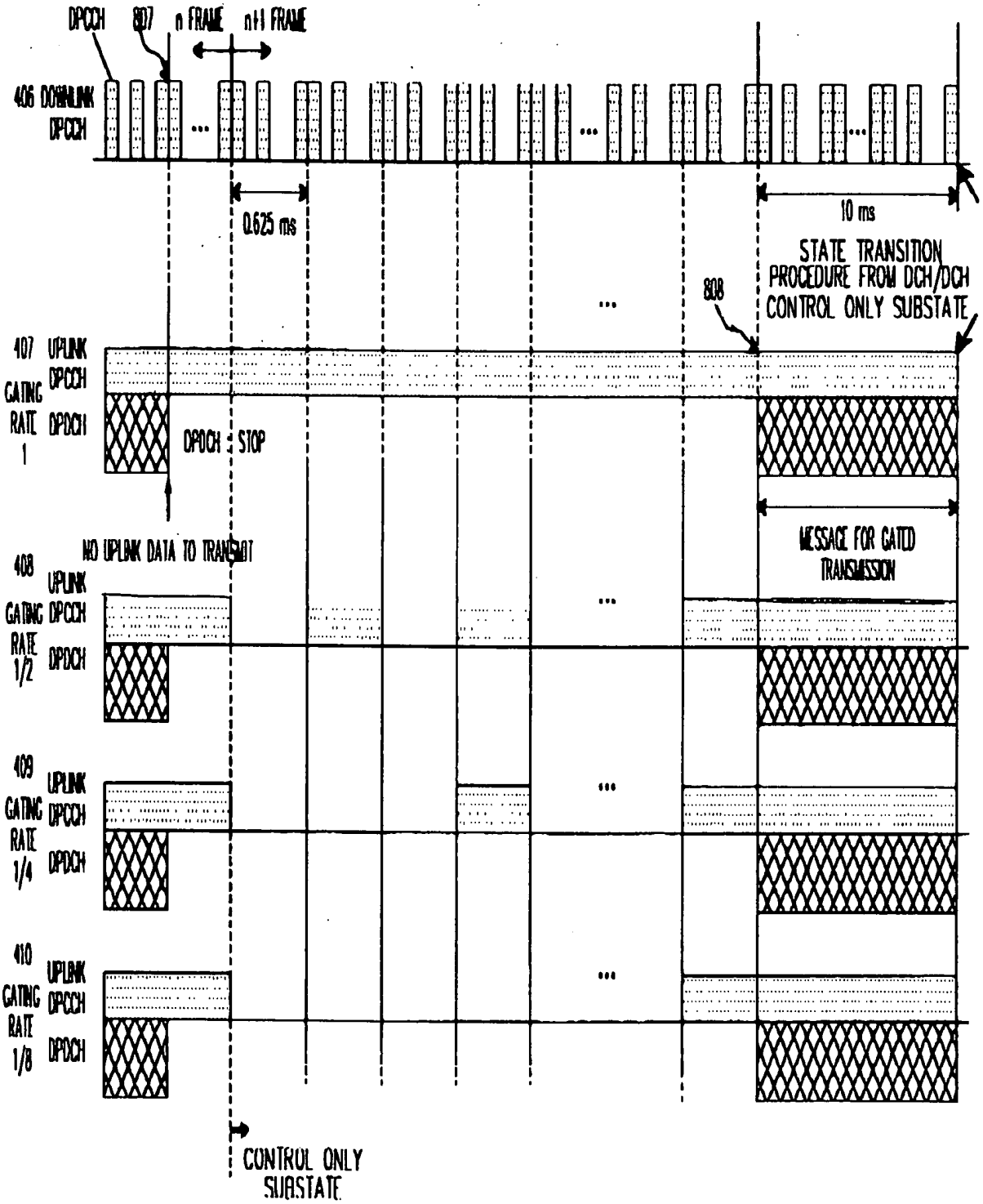

DPCCH
807
n FRAME
n+1 FRAME
406 DOWNLINK DPCCH
0.625 ms
10 ms
STATE TRANSITION PROCEDURE FROM DCH/DCH CONTROL ONLY SUBSTATE
808
407 UPLINK DPCCH
GATING RATE 1
DPDCH
DPDCH : STOP
NO UPLINK DATA TO TRANSMIT
MESSAGE FOR GATED TRANSMISSION
408 UPLINK DPCCH
GATING RATE 1/2
DPDCH
409 UPLINK DPCCH
GATING RATE 1/4
DPDCH
410 UPLINK DPCCH
GATING RATE 1/8
DPDCH
CONTROL ONLY SUBSTATE

FIG. 8D

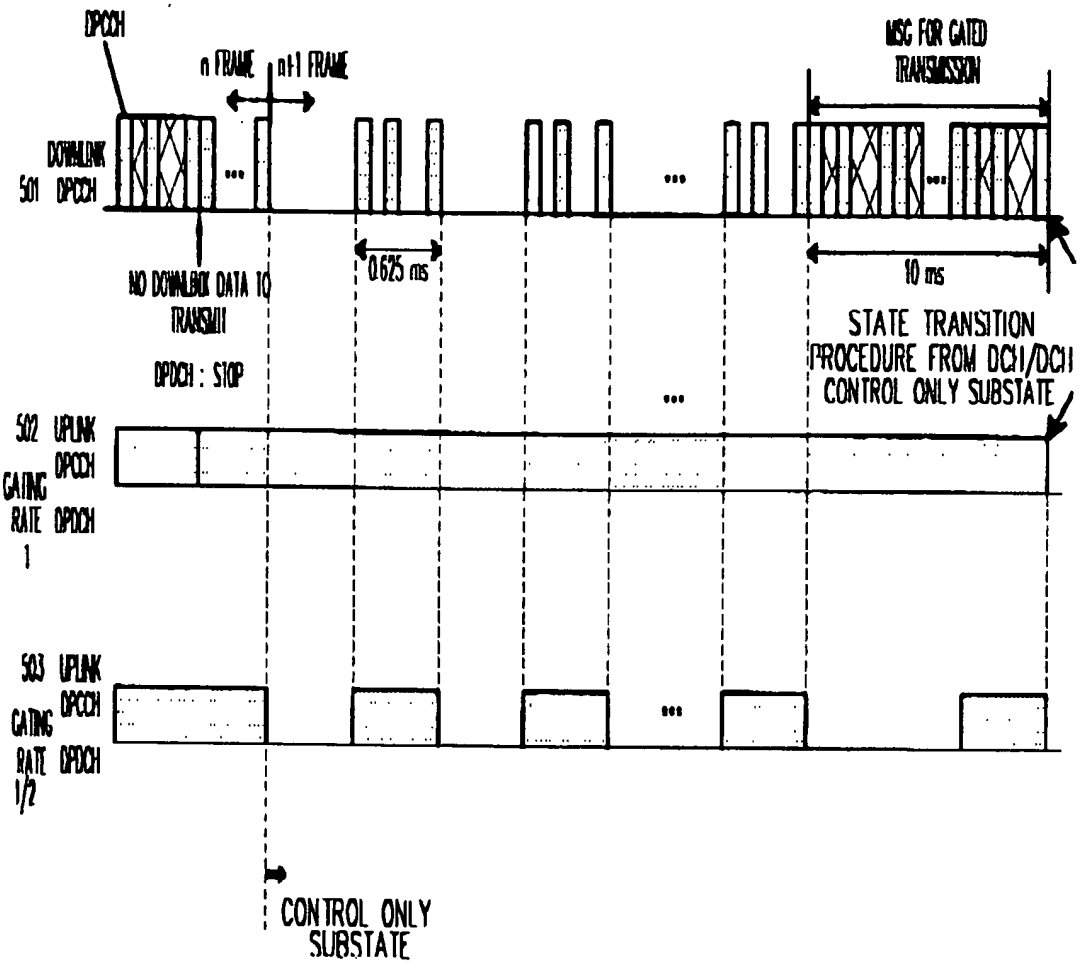

DPCCH
n FRAME
n+1 FRAME
MSG FOR GATED TRANSMISSION
501 DOWNLINK DPCCH
NO DOWNLINK DATA TO TRANSMIT
DPDCH : STOP
0.625 ms
10 ms
STATE TRANSITION PROCEDURE FROM DCH/DCH CONTROL ONLY SUBSTATE
502 UPLINK DPCCH GATING RATE DPDCH 1
503 UPLINK DPCCH GATING RATE DPDCH 1/2
CONTROL ONLY SUBSTATE

FIG. 9A

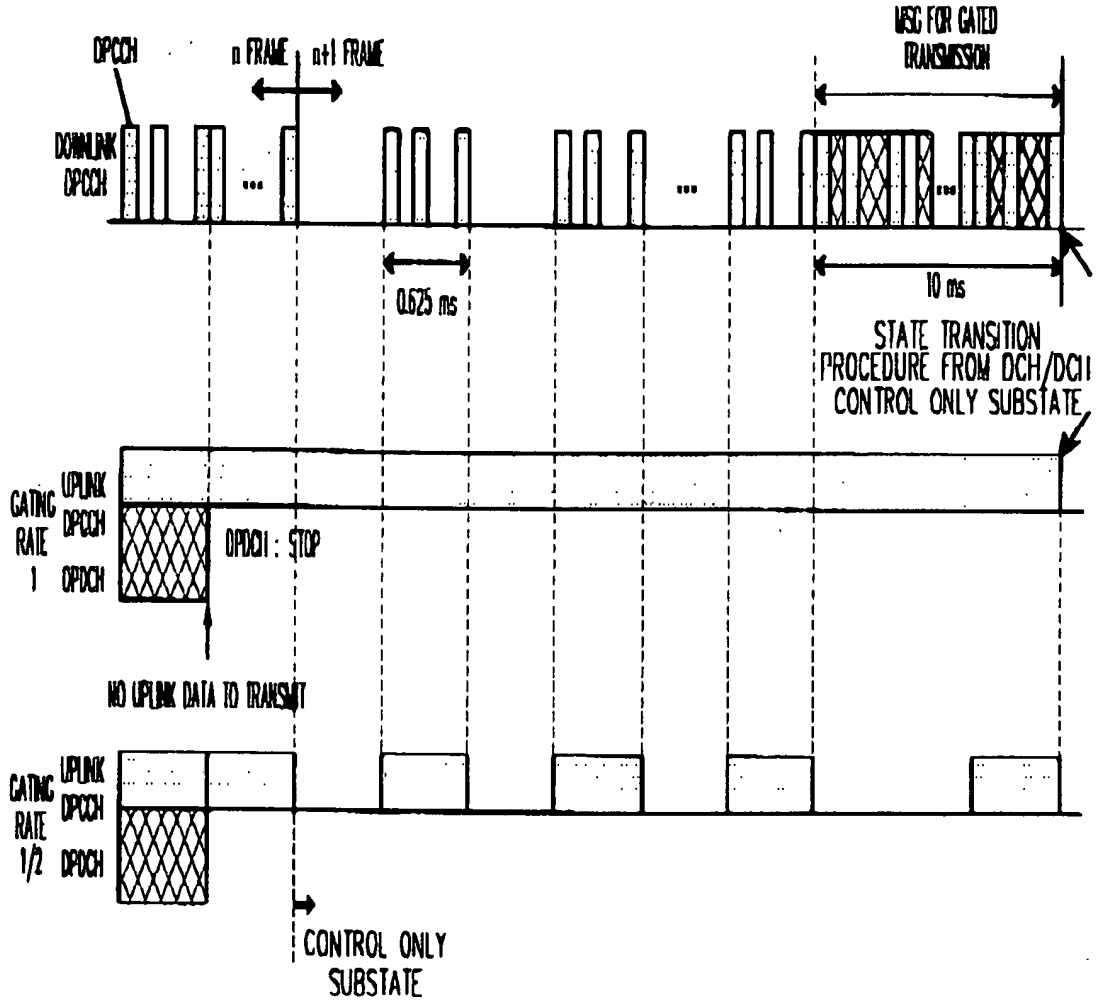

DPCCH
n FRAME
n+1 FRAME
MSG FOR GATED TRANSMISSION
DOWNLINK DPCCH
0.625 ms
10 ms
STATE TRANSITION PROCEDURE FROM DCH/DCH CONTROL ONLY SUBSTATE
GATING RATE 1
UPLINK DPCCH
DPDCH
DPDCH : STOP
NO UPLINK DATA TO TRANSMIT
GATING RATE 1/2
UPLINK DPCCH
DPDCH
CONTROL ONLY SUBSTATE

FIG. 9B

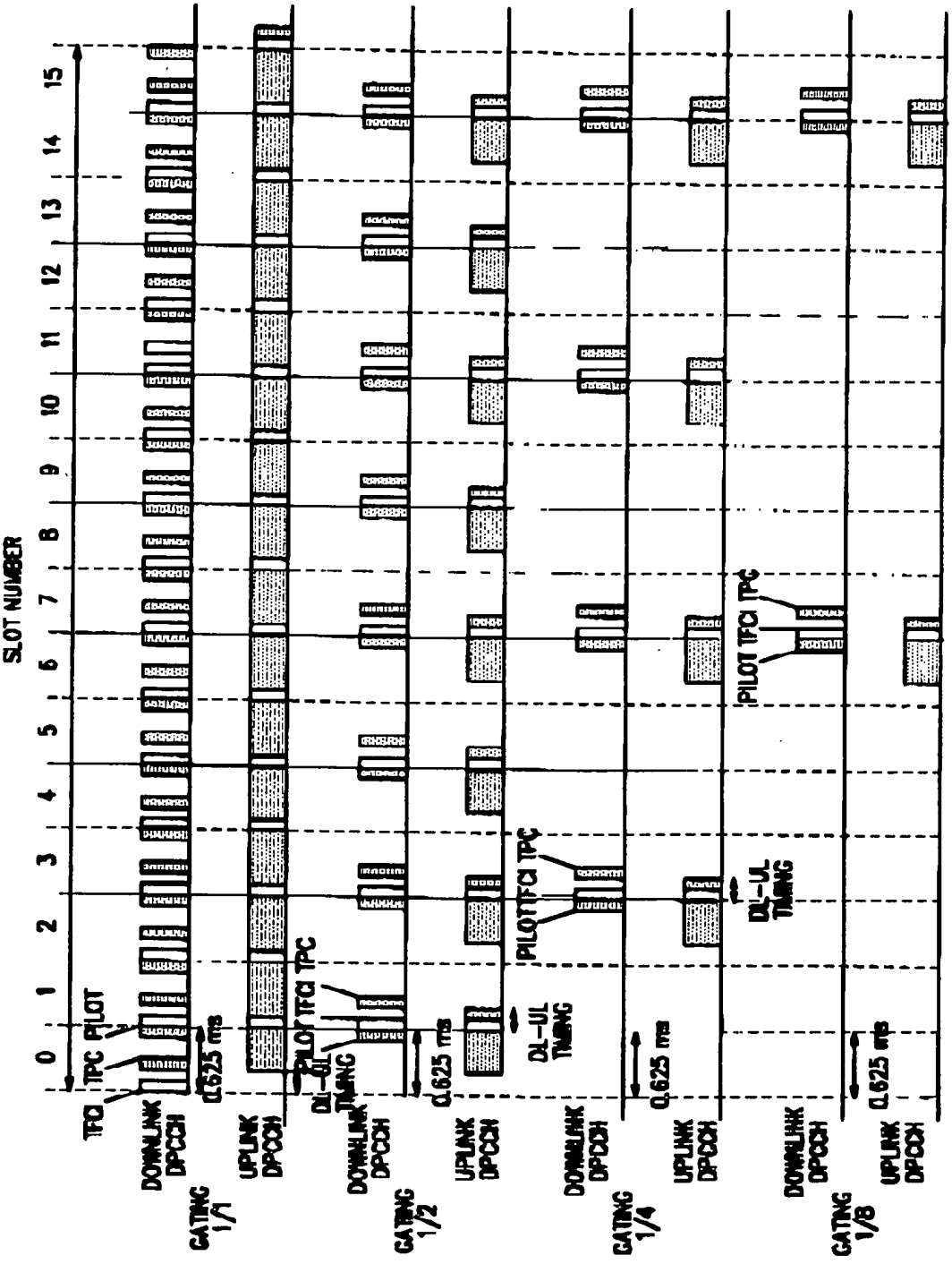

SLOT NUMBER
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
TFCI
TPC
PILOT
DOWNLINK DPCCH
0.625 ms
GATING 1/1
UPLINK DPCCH
PILOT TFCI TPC
DL-UL TIMING
DOWNLINK DPCCH
0.625 ms
GATING 1/2
UPLINK DPCCH
PILOT TFCI TPC
DL-UL TIMING
DOWNLINK DPCCH
0.625 ms
GATING 1/4
UPLINK DPCCH
PILOT TFCI TPC
DL-UL TIMING
DOWNLINK DPCCH
0.625 ms
GATING 1/8
UPLINK DPCCH

FIG. 10A

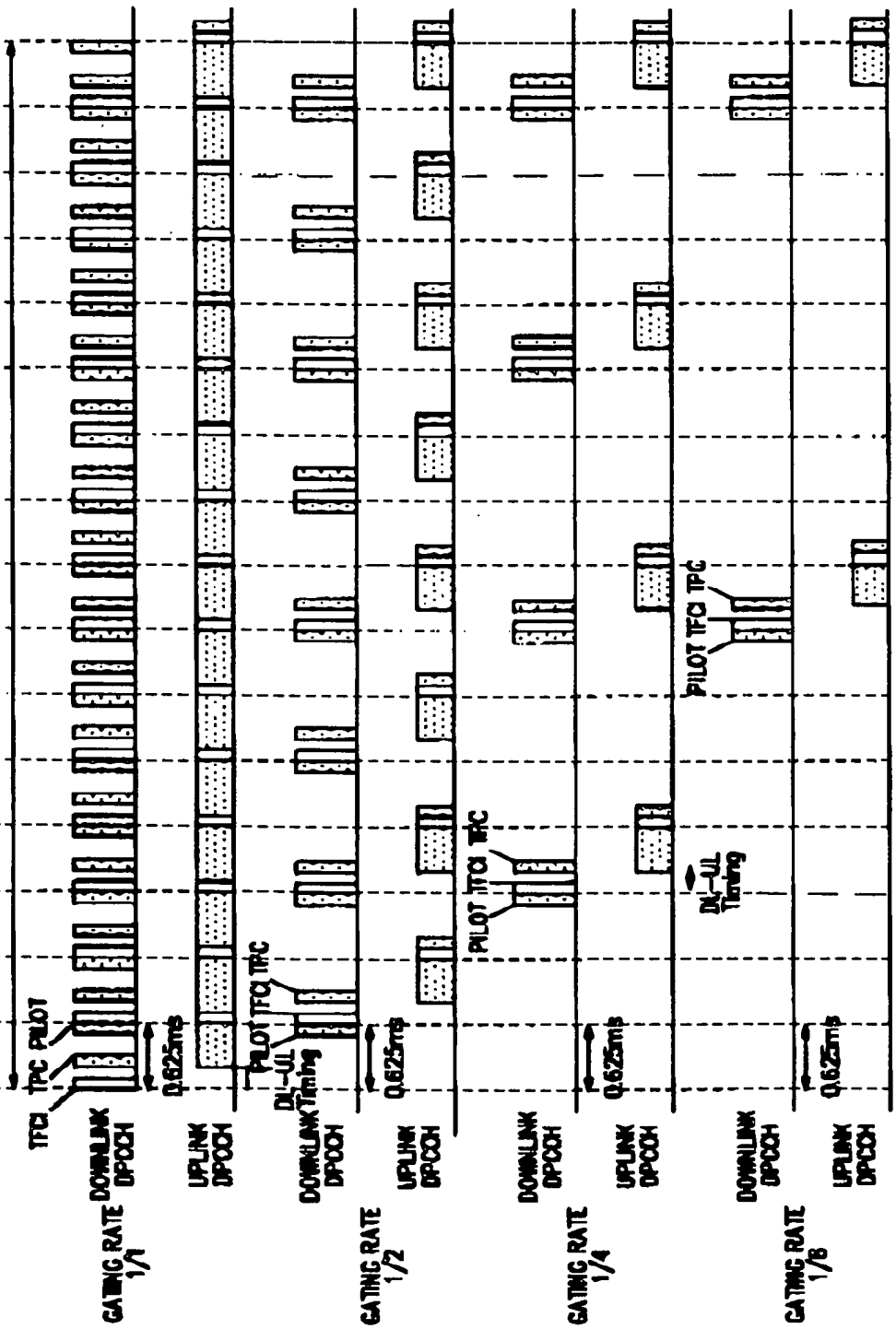

SLOT NUMBER
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
TFCI
TPC
PILOT
0.625ms
DOWNLINK DPCCH
UPLINK DPCCH
GATING RATE 1/1
DL-UL Timing
PILOT TFCI TPC
GATING RATE 1/2
GATING RATE 1/4
GATING RATE 1/8

FIG. 10B

SLOT NUMBER
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
GATING RATE 1/1
TFCI
TPC
PILOT
DOWNLINK DPCCH
0.625ms
UPLINK DPCCH
PILOT
TPC
DL-UL DOWNLINK TIMING
GATING RATE 1/2
0.625ms
UPLINK DPCCH
PILOT
TPC
DOWNLINK DPCCH
GATING RATE 1/4
0.625ms
UPLINK DPCCH
PILOT
TPC
DOWNLINK DPCCH
GATING RATE 1/8
0.625ms
UPLINK DPCCH

FIG. 10C

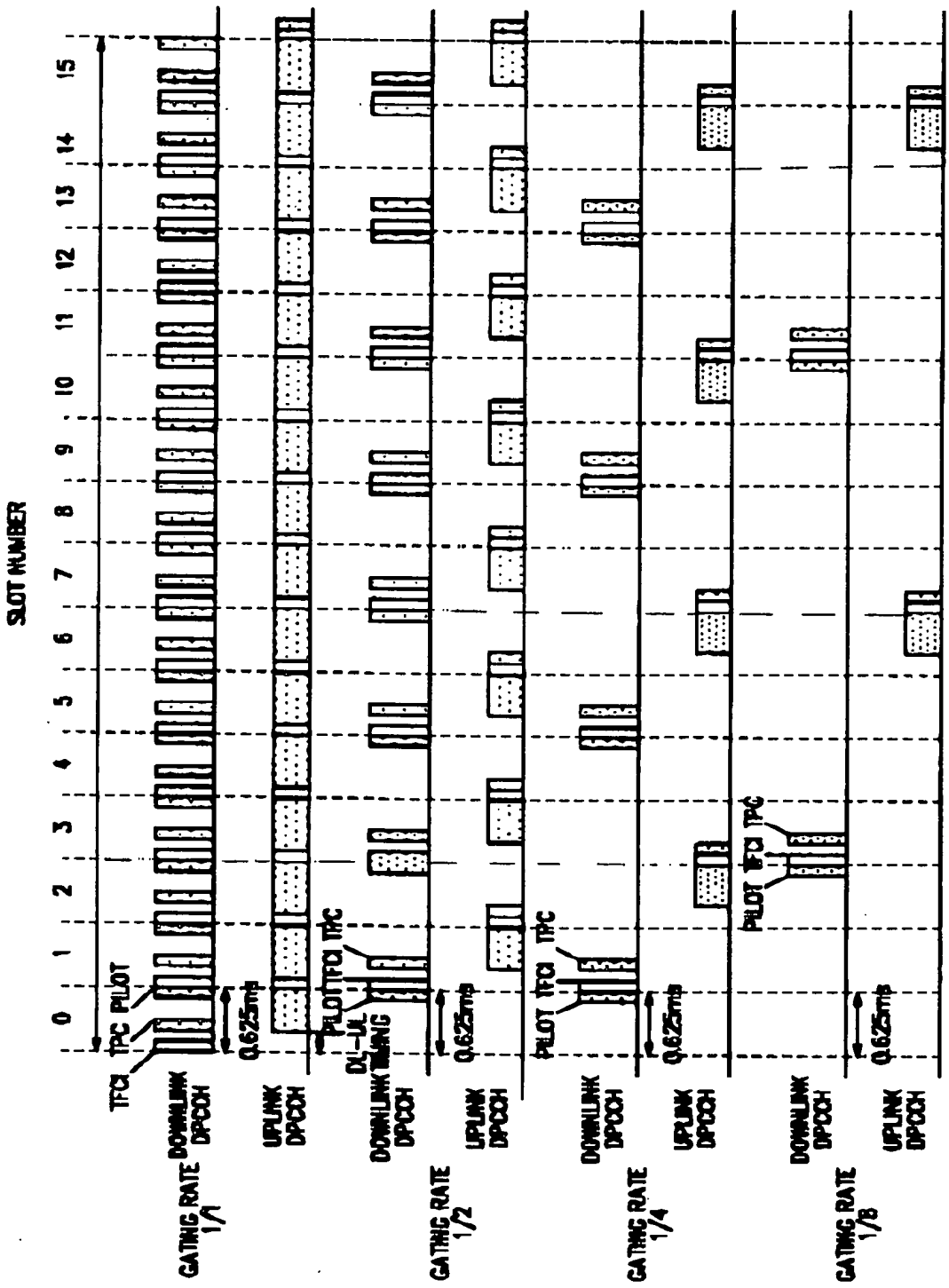

SLOT NUMBER
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
GATING RATE 1/1
TPC PILOT
TFCI
DOWNLINK DPCCH
0.625ms
UPLINK DPCCH
GATING RATE 1/2
PILOT TFCI TPC
DL-UL TIMING
DOWNLINK DPCCH
0.625ms
UPLINK DPCCH
GATING RATE 1/4
PILOT TFCI TPC
DOWNLINK DPCCH
0.625ms
UPLINK DPCCH
GATING RATE 1/8
PILOT TFCI TPC
DOWNLINK DPCCH
0.625ms
UPLINK DPCCH

FIG. 10D

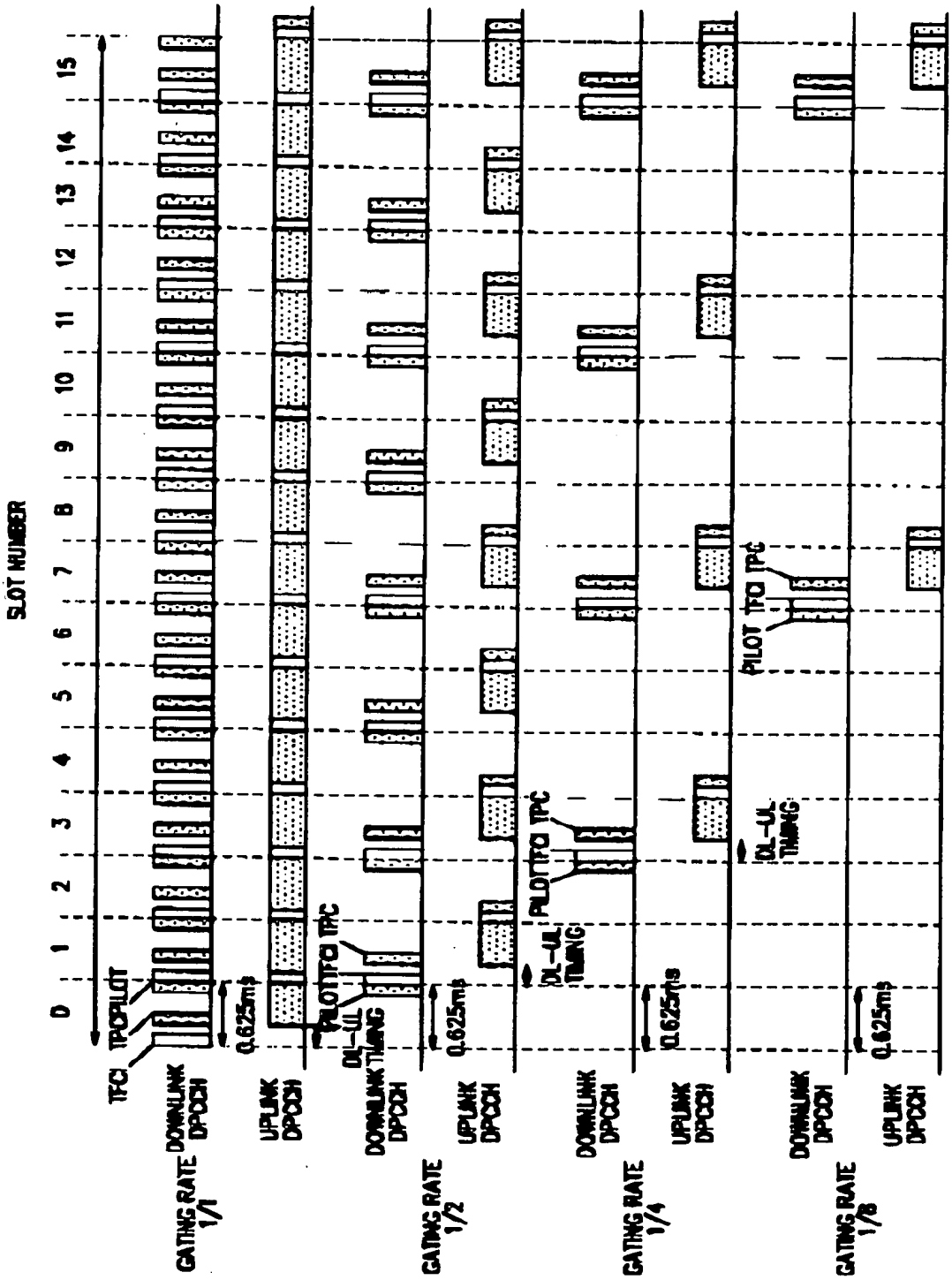
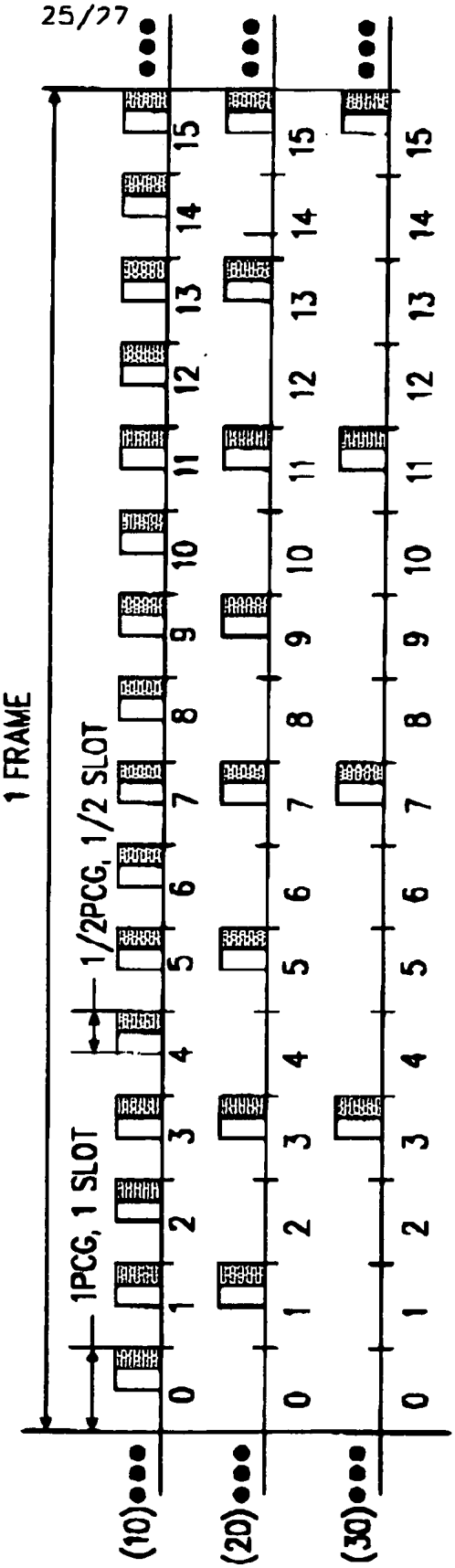

SLOT NUMBER
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
GATING RATE 1/1
DOWNLINK DPCCH
TFCI
TPC
PILOT
0.625ms
UPLINK DPCCH
GATING RATE 1/2
DOWNLINK DPCCH
PILOT
TPC
DL-UL TIMING
0.625ms
UPLINK DPCCH
GATING RATE 1/4
DOWNLINK DPCCH
PILOT
TPC
DL-UL TIMING
0.625ms
UPLINK DPCCH
GATING RATE 1/8
DOWNLINK DPCCH
PILOT
TPC
DL-UL TIMING
0.625ms
UPLINK DPCCH

FIG. 10E

FIG. 11A


1 FRAME
1PCG, 1 SLOT
1/2PCG, 1/2 SLOT
(10)
(20)
(30)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

0050450 "0050450

FIG. 11B

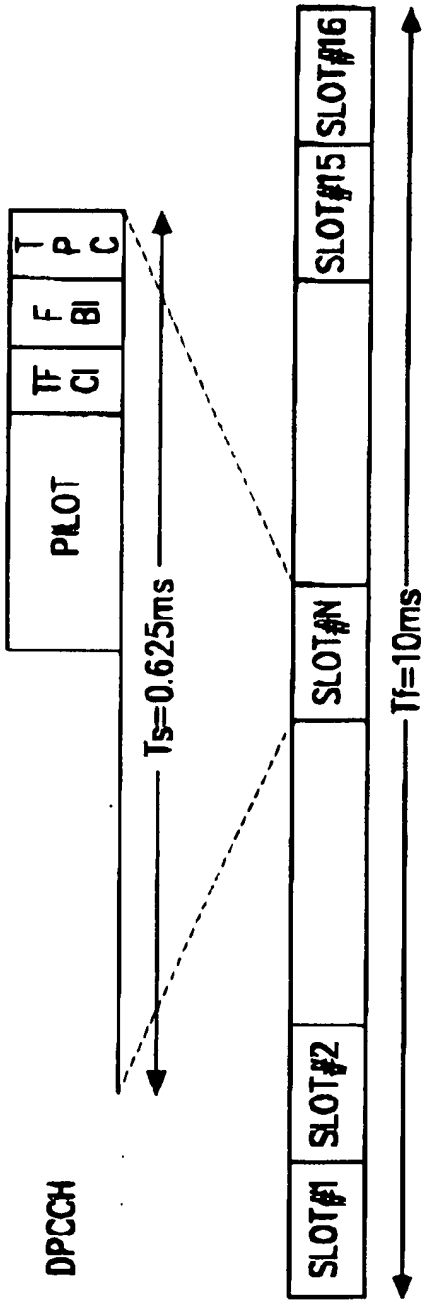
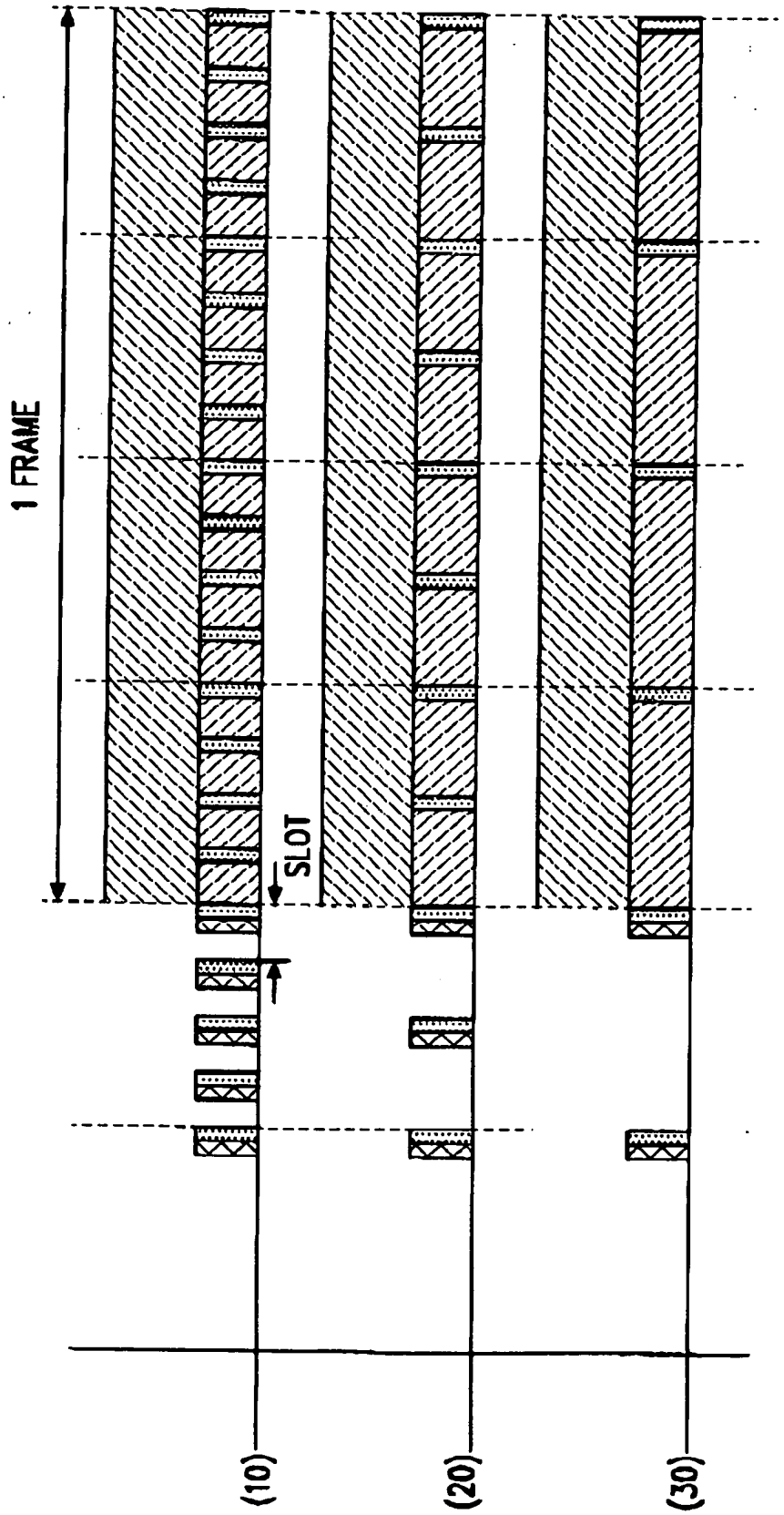


FIG. 11C



0055044 0055044